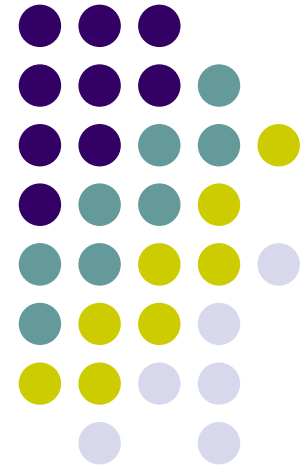


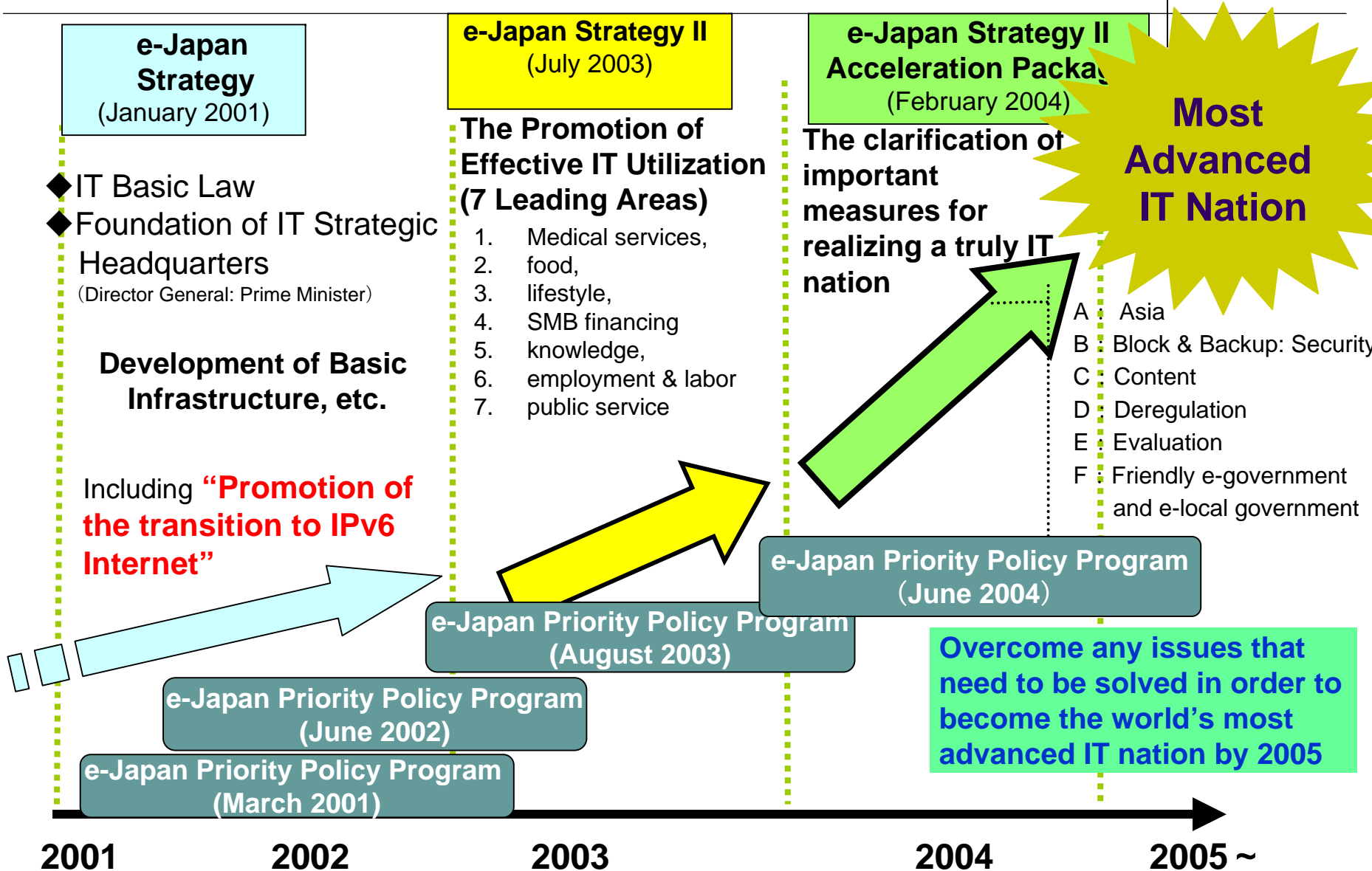
IPv6 Deployment Status in Japan

IPv6 Promotion Council
Tomy Issa



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History and Acceleration of Japan's IT Strategy



Ubiquitous network society (u-Japan)

- The society to be realized in 2010
- New policy target after the realization “e-Japan”

“Ubiquitous network”?

Realization of an environment in which all devices are interconnected
and
anybody can receive the services they want safely anytime, anywhere
without
being aware of the existence of networks

Today: Broadband Internet mainly for PCs

Future: Network of micro-chips, home electronic appliances and PCs

100 times more terminals connected to the network

Communication among devices

Features of IPv6 (incremental functions to IPv4)

1. Dramatic expansion in the address space

- IPv4 address space → $2^{32} = 4,294,967,296$
- IPv6 address space → $2^{128} = 340,282,366,920,938,463,463,374,607,431,768,211,456$
- Networking of non-PC devices
(IP addresses can be allocated to a variety of emerging devices, such as mobile phones, home appliances, games and automobiles etc.)
- P2P operation
(Ample IP addresses make it possible IP address allocated to each device without NAT or DHCP. P2P operation become easier by using IPv6)

2. Standard Support for Security Functions (IPsec: IP Security)

- It is possible to authenticate users and encrypt data when transferring IP packets.

3. Ability to Set IP Addresses Automatically (Plug-and-Play)

- Includes functionality whereby devices can automatically obtain IP addresses merely by being connected to the network.

4. Realizes Transmission of Real-time Data such as Voice and Image Data (QoS: Quality of Service)

- Enables quality of communication services to be guaranteed by placing low priority on data communications etc. that can tolerate delay and high priority on voice and image data that cannot tolerate delay.

Marketed IPv6 Products

◆ Brand-new IPv6 Products

- ✓ Office Solution
- ✓ Facility Management
- ✓ Traffic System
- ✓ Medical System
- ✓ And so on...



FreeBit
IP Phone & Centrex



Matsushita Electric Works
EMIT Total Buildings. System Controller for floor management



Yokogawa
"Xancia"
(All-purpose Controller)

◆ Commercialized IPv6 Products



NTT Regional Co.
IP Video Phone



YAMAHA (IPv6&SIP)



Hitachi ULSI (IPv6&IPsec)



Fujitsu LSI (IPv6&IPsec)

ALLIED TELESYN

AT-9924
Multi-Gbps
Wire-speed
IPv6 Router,
22 IPv6 Certified switches & routers
46,000 IPv6 switches deployed



Panasonic
Network Printer & WebCam



SGI "View Ranger"
(Micro server & Cam for Monitoring)



Hitachi

GR2000 Series (Router)



Yokogawa
Networked Audition Machine &
"Fis" Environment Analysis System



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Facility Networking

- Facility Networking SWG (IPv6 promotion council) aims at reducing the life cycle cost of buildings by employing IPv6 network technology in an open and multi-vendor system.
 - merge IPv6 to manage and watch every devices from every client made by another vendor of devices (LONWORKS and BACnet, de-facto protocols of facility management)
 - enable to operate and re-design facility management system using existing Ethernet
 - demonstrate interconnection experiment at several tradeshow

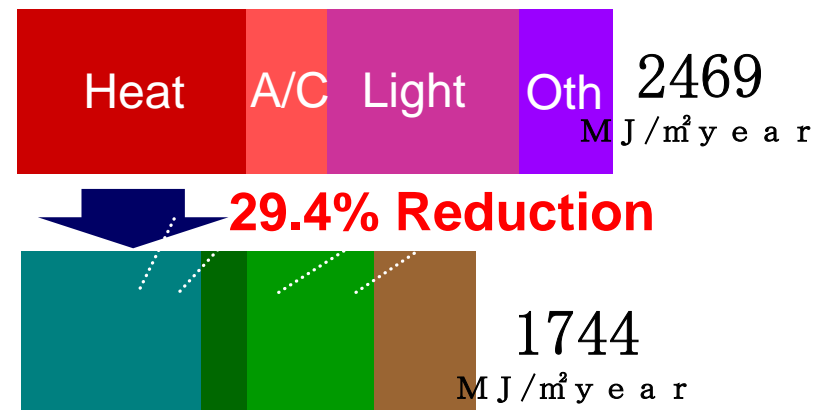


◆ Benefits:

- ✓ Shares the network infrastructure for several protocol made by specific vendors
- ✓ Reduces the cost of device and service and accelerates the growth facility management market
- ✓ Reduces energy consumption and its cost

◆ Then... IPv6

- ✓ Integrates each independent protocols and services
- ✓ Manages detailed devices among the distributed facilities
- ✓ Manages large number of devices

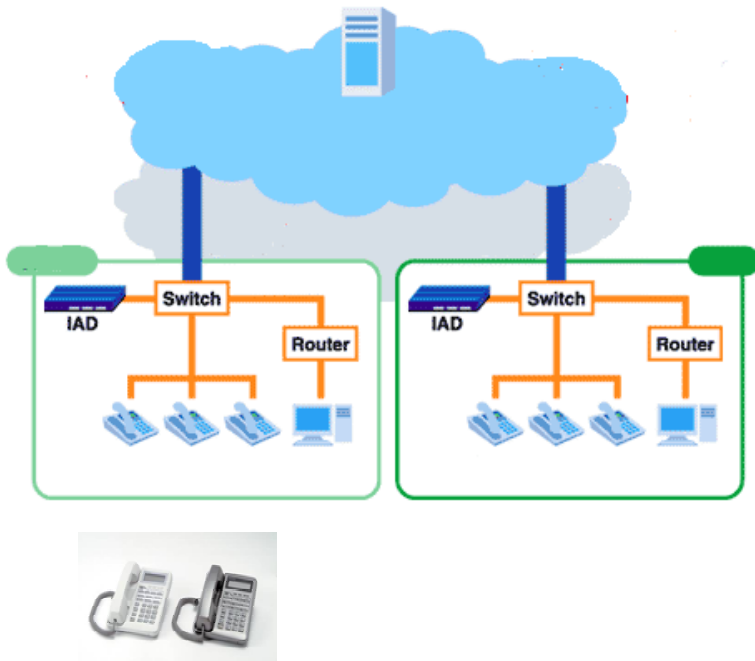


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IPv6 Deployment Example: IP-Phone

◆ IP-Phone (FreeBit)

- ✓ IP-phone solution based on shared IP Centrex
- ✓ Has already installed 20,000 terminals to a dormitory operator to manage their distributed facilities



Benefits

- Reduction of initial and running cost
- Provides the service such as PSTN quality
- Easy Operation for diverse / distributed facilities (e.g. dormitory operator)

Then... IPv6

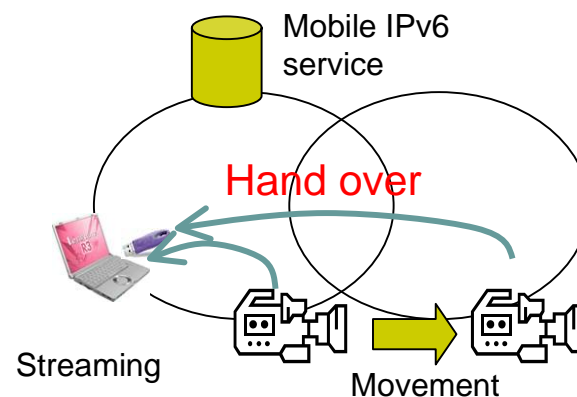
- Simplifies Network design / re-design
- Provides easy operation to the customer
- Applicable to IP-phone / IP-Centrex Services

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National Project : Mobile IPv6 Project

- Mobile IPv6 realizes seamless communication between private LAN and public wireless LAN.
- Mobile IPv6 wireless LAN trial service is provided at Hibiya Park, Tokyo.

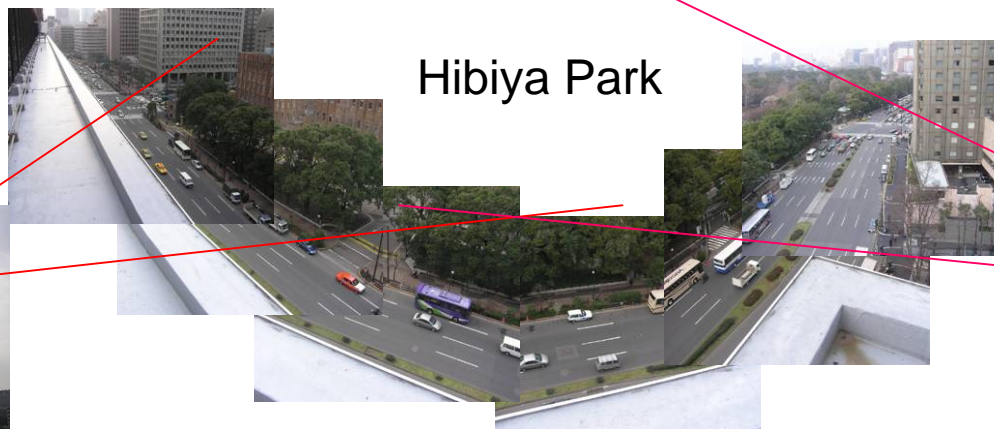
P2P File Share Application



Access Point A



Hibiya Park



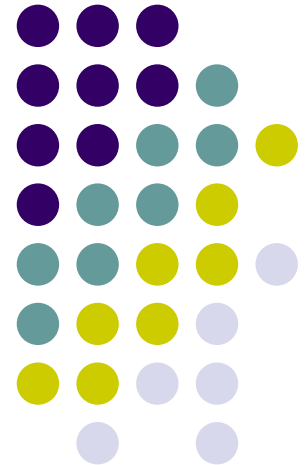
Access Point B



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IPv6 Council of Japan Multicast initiatives

Allied Telesyn Inc.



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IPv6 Validation Activities by the Council

- Deployment WG (IPv6 Promotion Council)
 - Study on the specific models on deployment of IPv6 (scenario, cost, etc.)
 - Formulate the "Guideline" for IPv6 deployment
 - <http://www.v6pc.jp/en/wg/transWG/index.html> (English)
- IPv6 Deployment Field Trial (MIC)
 - Practical installation of IPv6 in five typical cases.



Home Segment
Translator & Network Camera
(Panasonic)



Municipality Segment
Resident Contact System
(Hitachi)



Mobile Access Segment
IPv6 on 3G network
(KDDI)

- Certification WG (IPv6 Promotion Council)
 - promote IPv6 by improving quality of IPv6 equipment
 - test adaptability of IPv6 equipment for specification
 - based on TAHI activity (<http://www.tahi.org>)
- IPv6 Ready Logo Committee (<http://www.ipv6ready.org/frames.html>)
 - affiliate of IPv6 forum with cooperation from UNH and ETSI
 - set test specification, provide self-test tools, assessment
 - issue "IPv6 Ready Logo" for approved equipment
 - phase-2 has started (IPv6 core protocol) from Feb 16, 2005
- Other activity:
 - VoIP/SIP Interoperability Test



Thank you!



More information:

IPv6 Promotion Council : <http://www.v6pc.jp/en/index.html>

IPv6 Style : <http://www.ipv6style.jp/en/index.shtml>